

IN THE SPECIFICATION

Replace paragraph beginning on page 9, line 9 with a new paragraph with changes as noted below:

Turning now to Figure 1, there is shown a partially exploded cross sectional view of the reset valve of the present invention. In the preferred embodiment of the present invention, shown in Figs. 1-4, a pressure relief valve 10 has a body 12, a piston 14 movably disposed within the body 12, and a bonnet assembly 16. Figures 1-4 are shown in a horizontal orientation relative to the typical assembled vertical field position. References herein to an upward or downward movement or upper and lower positions refer to an orientation where bonnet assembly 16 is positioned above piston 14 in a vertical orientation. The relief valve 10 is typically connected to a line conduit 18 in fluid communication with a fluid system containing a fluid under pressure, and a discharge conduit 20 in fluid communication with a fluid containment or storage structure, sump, drain line, or other arrangement for receiving fluid relieved from the fluid system.

Replace two (2) consecutive paragraphs beginning on page 10, line 5 through page 11, line 10 with two new paragraphs with changes as noted. In the first paragraph, the only change is to add a period after the fifth sentence. In the second paragraph, the only change is to add the word "or" in the third sentence:

Disposed in a cylindrical cavity in said piston head 30 is a cylindrical inner piston 39 having a piston cap 40. Inner piston 39 is a round disc that freely moves in sealed engagement within said cavity of said piston. Inner piston 39 has at its upper portion piston cap 40 attached with cap screw 43. Inner piston 39 is freely moveable within said cavity in piston head 30 and the upper surface of piston cap 40 defines the lower portion of lower enclosed chamber 28. At the first position, the head 30 and inner piston 39 block the flow of fluid between the inlet port

22 and the outlet port 26. The head has an annular upper surface 36 that defines, in part, a lower wall of upper enclosed chamber 33. When piston head 14 is at its first, or set position, the lower portion of inner piston 39 is in fluid contact with the inlet conduit. Piston head 30 also has an exhaust port 42 which is shown as a rectangular cut-out portion of the piston head.

Importantly, the piston 14 has one or more apertures 41 (shown in Figures 2 and 5A) that extend through the upper portion of head 30 of the piston 14 providing a hydraulic fluid flow path between lower enclosed chamber 28 and upper enclosed chamber 33. The key function of the apertures 41 is to provide a controlled flow path for hydraulic fluid to pass between upper and lower chambers 28 and 33 when the piston 14 is at its first and second positions. Chambers 28 and 33 may be filled with any variety of fluids, including, among others, oil, anti-freeze, water, or lubrication grease. In addition, in certain applications, said chambers may be filled with other materials including gases or air. Said chambers are sealed off from the working fluid by the arrangement of the piston head, disc and piston chamber. This controlled hydraulic fluid path between chambers 28 and 33 cushion the compressive force of the piston 14 when it is moved from its above-described first position to a second, or relief, position at which the piston head 30 is moved from its flow blocking position between the inlet and outlet ports, 22 and 26. As can be seen in Figures 1 and 3, when piston 14 is raised to the second position, there is essentially no impediment to fluid flow between the line conduit 18, which typically contains pressurized fluid, and the discharge conduit 20 which is typically open to atmosphere, or ambient pressure through exhaust port 42.

Replace the paragraph beginning on page 11, line 22 through page 13, line 7 with a new paragraph with changes as noted:

In normal operation, with the line, or system pressure at a pressure less than the predetermined value at which it is desired to relieve system pressure, the piston 14 is at its first position. At this position, fluid will flow from the inlet port 22, and stop at the bottom surface of

inner piston 39, until there is essentially equal pressure on inner piston 39 and in turn within enclosed chambers 28 and 33. Exhaust port 42 is positioned so that it does not permit working fluid flow when the valve is in its first position to enter annular chamber 24 [[21]]. However, when the line pressure exceeds the predetermined value, typically as an almost instantaneous pressure spike resulting from line blockage, the valve 10 will trip in the manner described below, rapidly raising the piston head 30 away from its first position. Initially, the piston 14 will raise very rapidly, thereby decreasing the volume of the enclosed chamber 33 [[28]], until the pressure in the enclosed chamber 33 [[28]] is greater than the pressure of the fluid at the lower surface 38 of the inner piston 39. As the head 30 continues to move upward toward the stem bushing 34, the volume of the enclosed chamber 33 [[28]] decreases and, since the hydraulic fluid oil of this example is essentially a noncompressible fluid, the rate of upward movement of the piston 14 is restricted by the rate at which hydraulic fluid can be moved from the enclosed chamber 33 [[28]], through the apertures 41 into enclosed chamber 28 [[33]]. Inner piston 39 moves upward slightly as the piston moves into its second position. Thus, the impact of the piston head 30 against the stem bushing 34, at the upward limit of travel of the head 30 is cushioned, and no rebound forces are imposed on the piston head 30 that would cause it move toward the closed position. Depending upon the viscosity of the hydraulic fluid placed in chambers 28 and 33, both the number and diameter of the apertures may vary and can be readily determined by one of ordinary skill in the art of fluid mechanics. In the above-described illustrative application in which oil is the hydraulic fluid, two apertures 41, each having a diameter of about 0.1875 in (0.476 cm), are equidistantly radially spaced from each other around the longitudinal centerline of the piston head 30, one at an angle relative to ground of 10 degrees and the other at an angle relative to ground of 25 degrees. Alternatively, the apertures 41 could be formed by drilling the desired diameter orifice through replaceable plugs that could be selectively inserted into the piston head 30. Such an arrangement would provide appropriately sized apertures for varying fluid viscosity applications, even allowing some of the plugs to have a solid construction if fewer apertures were required.

Replace paragraph beginning on page 16, line 3 with a new paragraph with changes as noted below—the addition of a period at the end of the paragraph:

To reset the valve 10, pressure must be relieved from the inlet port 22, whereupon the reset handle 78 can be manually rotated counterclockwise to the rightward position shown in FIG. 2. This manual movement of the reset handle will cause the roller 80 to move the upper link 68 back into vertical alignment with the lower link 70.